

IN THE CLAIMS:

Kindly CANCEL claims 25-31 without prejudice. Kindly AMEND claims 1, 2, 3, 5, 6, 8, 9, 16, 17, 19, 21, 22 and 24 as follows:

1. (Amended) A method of detecting electromagnetic and/or nuclear radiation, comprising the steps of:

exposing a microcantilever [cantilever] to a source of radiation, the microcantilever [cantilever] having at least one physical property affected by radiation;

monitoring radiation-induced changes in the at least one physical property; and

correlating changes in the at least one physical property to a measure of radiation.

2. (Amended) A method according to claim <sup>25</sup>1, wherein the monitoring step includes monitoring radiation-induced bending of the microcantilever [cantilever].

3. (Amended) A method according to claim <sup>25</sup>1, wherein the monitoring step includes monitoring radiation-induced changes in mechanical resonance of the microcantilever [cantilever].

5. (Amended) A method according to claim 1, further comprising forming a microcantilever using a material or materials which absorbs [absorb] radiation and changes property as a function of absorbed radiation, and the monitoring step includes monitoring stress-induced changes in the microcantilever and the correlating step includes correlating changes in stress to the presence of radiation.

6. (Amended) A method according to claim <sup>25</sup>1, wherein the microcantilever has an ~~elastic~~ modulus which varies with exposure to radiation, the at least one physical [mechanical] property of the microcantilever varying with variations in the elastic modulus.

8. (Amended) A method according to claim 1, further comprising the steps of directing a laser beam from a diode laser toward the microcantilever [cantilever], reflecting the laser beam from the microcantilever [cantilever], receiving the reflected laser beam at a position sensitive detector which generates a PSD signal, and detecting radiation based on the PSD signal.

E 9. (Amended) A method according to claim <sup>25</sup>1, further comprising coating the microcantilever [cantilever] with or fabricating the microcantilever [cantilever] from a piezoresistive material which has a resistivity which varies with bending of the microcantilever, and the correlating step comprises correlating changes in resistivity of the piezoresistive material to the presence of radiation.

A3  
conf.

E 16. (Amended) A method according to claim <sup>25</sup>1, further comprising placing the microcantilever within an oscillatory tank circuit, wherein the microcantilever [cantilever] is disposed between poles of a capacitor or constitutes one pole of a capacitor, mechanically oscillating the microcantilever using electrostatic forces generated within the capacitor, determining the microcantilever resonance properties, and detecting radiation based on change in the resonance response.

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B4  
17. (Amended) An apparatus for detecting electromagnetic and nuclear radiation, comprising [the steps of]:

a radiation sensor having an element exposed to a source of radiation, the sensor having at least one physical property affected by radiation;

means for monitoring radiation-induced changes in the at least one physical property of the sensor; and

means for correlating changes in the at least one physical property to a measure of radiation.

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F<sub>2</sub>  
95  
19. (Amended) An apparatus according to claim 18, wherein the microcantilever is comprised of at least one [on] coating, where the at least one coating includes a first metallic coating which, together with the microcantilever, exhibits a bimetallic effect when exposed to energy of radiation.

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F<sub>4</sub>  
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21. (Amended) An apparatus according to claim 19, wherein the first metallic coating covers a portion of one surface [surfae] of the microcantilever and is separated from the base by an insulator.

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F<sub>5</sub>  
22. (Amended) An apparatus according to claim [18] 19, further comprising a second coating on the microcantilever, consisting of a radiation absorbing material that increases the radiation flux absorbed by the microcantilever.

sub DB 24. (Amended) An apparatus [according to claim 18,] for detecting electromagnetic and nuclear radiation, comprising:

a radiation sensor having an element exposed to a source of radiation, the sensor having at least one physical property affected by radiation;

means for monitoring radiation-induced changes in the at least one physical property of the sensor; and

97 means for correlating changes in the at least one physical property to a measure of radiation; wherein

the sensor comprises a microcantilever connected to a base, where the microcantilever consists of a material or layered materials which converts energy of radiation, if present, into a physical change in the microcantilever; wherein

the microcantilever or layered materials [material] on the microcantilever exhibits a change in elastic modulus upon radiation damage induced by absorption of nuclear radiation.

#### REMARKS

Reconsideration and allowance of the claims are requested. Upon entering the amendment, claims 1-24 remain pending in the application. Claims 25-31 have been cancelled without prejudice. Claims 1, 2, 3, 5, 6, 8, 9, 16, 17, 19, 21, 22 and 24 have been amended.